

# **2010 Annual Drinking Water Quality Report**

## **MacDill Air Force Base, Florida- PWS # 6296193**

### **INTRODUCTION**

MacDill AFB is committed to providing the highest quality water. We are pleased to report that our drinking water meets all state and federal standards.

This Water Quality Report is designed to inform you about the drinking water and services we deliver to you every day. Included is information about where we obtain our drinking water, how it is treated, water-quality testing, sources of contaminants, and testing results.

### **WATER SOURCE AND TREATMENT**

The David L. Tippin Water Treatment Facility (DLTWTF) produces the City of Tampa's drinking water and is the sole source of drinking water for MacDill AFB. The DLTWTF is located approximately 10 miles north of the base and the City water is piped into MacDill AFB through three separate points-of-entry service connections. Water treatment at DLTWTF includes: coagulation/flocculation, sedimentation/filtration, ozonation, pH adjustment, fluoridation, and disinfection.

The primary source of water for the DLTWTF is the Hillsborough River. Water quality of this surface water supply varies seasonally due to rainfall input. During the dry season, the City also purchases water from Tampa Bay Water (TBW). This is supplied from the TBW Aquifer Storage and Recovery (ASR) system, groundwater, surface water, and desalinated seawater supplies.

In 2009 the Florida Department of Environmental Protection performed a Source Water Assessment for the City of Tampa Water Department. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at [www.dep.state.fl.us/swapp](http://www.dep.state.fl.us/swapp).

To better control disinfectant residual levels, MacDill AFB is able to increase the disinfectant level using a chloramine booster system at the base water plant. This system consists of: chemical storage tanks, meters, chemical metering pumps, and chemical injection points. The system uses calcium hypochlorite and aqueous ammonia to form the chloramine compounds that supplement the disinfectant residual provided by the City of Tampa and required by state and federal regulation.

### **WATER QUALITY TESTING**

Both the City of Tampa and MacDill AFB routinely test for contaminants in your drinking water according to federal and state laws, rules, and regulations. This report shows water quality test results and what they mean. Harbor Bay is responsible for maintaining the distribution system and providing drinking water to residents of base housing. Except where indicated otherwise, this report is based on the results of our water quality monitoring for the period of January 1 to December 31, 2010. Data obtained before January 1, 2010 and presented in this report are from the most recent testing done in accordance with the laws, rules, and regulations.

If you have any questions concerning your water service, please contact the 6th Civil Engineer Squadron at (813) 828-4532 or Harbor Bay for base housing residents at (813) 840-2000. Please contact the Bioenvironmental Engineering office, 6 AMDS/SGPB, at (813) 827-9570 if you have any health-related drinking water concerns or general questions about this report. For more information on the quality of our source water, please contact the Tampa Water Department's Consumer Affairs Division at (813) 274-8121.

### **TABLE DEFINITIONS**

In the water quality data tables provided at the end of this report, you may find unfamiliar terms and abbreviations. To help you better understand these terms, we've provided the following definitions:

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level Goal or MRDLG: The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Maximum Residual Disinfectant Level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Millirem Per Year (mrem/yr): measure of radiation absorbed by the body.

Parts per million (ppm) or Milligrams per liter (mg/l): One part by weight of analyte to 1 million parts by weight of the water sample.

Parts per billion (ppb) or Micrograms per liter (ug/l): One part by weight of analyte to 1 billion parts by weight of the water sample.

Picocurie per liter (pCi/L): Measure of radioactivity in water.

Nephelometric Turbidity Unit (NTU): Measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Not Detected or ND: Means that the substance was not found by laboratory analysis.

Treatment Technique (TT): A required process intended to reduce the levels of a contaminant in drinking water.

## **SOURCES OF CONTAMINATION**

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. MacDill AFB and Harbor Bay are responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

(A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

(C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses.

(D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

(E) Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

## **ADDITIONAL INFORMATION ABOUT DRINKING WATER**

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations, which limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (1-800-426-4791).

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

## **CLOSING**

We are committed to insuring the quality of your drinking water. If you have any questions or concerns about the information contained in this report, please feel free to call any of the numbers listed above.

## **ATTACHMENTS (2):**

1. MacDill AFB Water Quality Data Table
2. City of Tampa Water Quality Data Table

**MACDILL AFB WATER QUALITY DATA TABLE- Page 1 of 1**

Total coliform bacteria: Highest Monthly Percentage/Number is the highest monthly number of positive samples for systems collecting fewer than 40 samples per month. Highest Monthly Percentage/Number is the highest monthly percentage of positive samples for systems collecting at least 40 samples per month.							
Microbiological Contaminants							
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Highest Monthly Percentage /Number	MCLG	MCL		Likely Source of Contamination
Total Coliform Bacteria	Oct/2010	N	1	0	For systems collecting fewer than 40 samples per month: presence of coliform bacteria in 1 sample collected during a month		Naturally present in the environment
Stage 1 Disinfectants and Disinfection By-Products							
For the following parameters monitored under Stage 1 D/DBP regulations, the level detected is the highest running annual average of the quarterly averages: Chloramines, Haloacetic Acids, and/or TTHM. Range of Results is the range of results (lowest to highest) at the individual sampling sites.							
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Chloramines (ppm)	Daily/ 2010	N	1.1	0.6-1.7	MRDLG = 4	MRDL=4	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb)	Quarterly/ 2010	N	13.0	8.6-17.7	N/A	MCL = 60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	Quarterly/ 2010	N	41.8	25.1-53.6	N/A	MCL = 80	By-product of drinking water disinfection
Lead and Copper (Tap Water)							
Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	AL Violation Y/N	90th Percentile Result	No. of sampling sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	Jul/2008	N	0.93	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead (tap water) (ppb)	Jul/2008	N	< 1.0	0	0	15	Corrosion of household plumbing systems, erosion of natural deposits

*As authorized and approved by EPA, the State has reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of our data [e.g., for Lead and Copper], though representative, is more than one year old.*

## Water Quality Test Results

### Microbiological Contaminants

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Highest Monthly Percentage /Number	MCLG	MCL	Likely Source of Contamination
Total Coliform Bacteria	December /2010	N	0.7/2	0	For systems collecting at least 40 samples per month: presence of coliform bacteria in 5% of monthly samples.	Naturally present in the environment

### Turbidity

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	The Highest Single Measurement	The Lowest Monthly Percentage of Samples Meeting Regulatory Limits	MCLG	MCL	Likely Source of Contamination
Turbidity (NTU)	July/2010	N	0.743	100%	N/A	TT	Soil runoff

*The result in the lowest monthly percentage column is the lowest monthly percentage of samples reported in the Monthly Operating report meeting the required turbidity limits.*

### Radioactive Contaminants

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Alpha emitters (pCi/L)	March/May/July Sept 2008	N	3.7	ND – 3.7	0	15	Erosion of natural deposits
Beta/photon emitters (mrem/yr)*	August/Nov 2007/Sept 2008	N	2.2	ND – 2.2	0	4	Decay of natural and man-made deposits
Radium 226 + 228 or combined radium (pCi/L)	Aug 2007/May/ July/Sept 2008	N	1.2	0.3 – 1.2	0	5	Erosion of natural deposits
Uranium (µg/L)	May/July/Sept 2008	N	1.2	ND – 1.2	0	30	Erosion of natural deposits

*Result in the Level Detected column for radioactive contaminants. EPA considers 50 pCi/L to be the level of concern for Beta particles.*

*\*Beta particles are reported in pCi/L.*

## Inorganic Contaminants

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Level Detected	Range of Results	MCLG	MCL	Likely Source of Contamination
Barium (ppm)	May 2010	N	0.010	0.010	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beryllium (ppb)	May 2010	N	0.4	0.4	4	4	Discharge from metal refineries and coal-burning factories; discharge from electrical aerospace, and defense industries
Fluoride (ppm)	May 2010	N	0.88	0.69 – 0.88	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories. Water additive which promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Nickel (ppb)	May 2010	N	1.7	ND – 1.7	N/A	100	Pollution from mining and refining operations. Natural occurrence in soil
Nitrate (as Nitrogen) (ppm)	May 2010	N	0.20	0.23 – 0.43	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Nitrite (as Nitrogen) (ppm)	May 2010	N	0.37	0.034 – 0.37	1	1	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm) *	May 2010	N	31	31	N/A	160	Salt water intrusion, leaching from soil

Results in the Level Detected column are the highest detected level at any sampling point.

\*The Florida Department of Environmental Protection (FDEP) has set the drinking water standard for Sodium at 160 parts per million (ppm) to protect individuals who are susceptible to sodium sensitive hypertension or diseases that cause difficulty in regulating body fluid volume. Sodium is monitored so that individuals who have been placed on sodium (salt) restricted diets may take into account the sodium in their drinking water. Drinking water contributes only a small fraction (less than 10 percent) to the overall sodium intake. If you have been placed on a sodium restricted diet, please inform your physician that our water contains 130 ppm of sodium.

## Synthetic Organic Contaminants Including Pesticides and Herbicides

Disinfectant or Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL or MRDL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Dalapon (ppb) **	March/July / Sept 2008	N	1.7	ND – 1.7	200	200	Runoff from herbicide used on rights of way

*\*Results in the level detected column are the highest detected level at any sampling point.*

*\*\* Dalapon results are from the Tampa Bay Water Consumer Confidence Report for 2008.*

## Stage 1 Disinfectants and Disinfection By-Products

Disinfectant or Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL or MRDL Violation Y/N	Level Detected	Range of Results	MCLG or MRDLG	MCL or MRDL	Likely Source of Contamination
Bromate (ppb)	Monthly 2010	N	0.54	ND – 4.6	MCLG = 0	MCL = 10	By-product of drinking water disinfection
Chloramines (ppm)	Daily 2010	N	3.2	1.0- 3.9	MRDLG = 4	MRDL = 4.0	Water additive used to control microbes
Haloacetic Acids (five) (HAA5) (ppb)	Quarterly 2010	N	19.1	ND – 30.2	NA	MCL = 60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	Quarterly 2010	N	42.7	29.8 – 48.5	NA	MCL = 80	By-product of drinking water disinfection

*The result in the level detected column for Bromate, Chloramines, Haloacetic Acids and Total Trihalomethanes is the highest running annual average from the year from all sampling sites. The Range of Results is the range (lowest to highest) at individual sampling sites.*

Disinfectant or Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	Acute Violation Y/N	Non Acute Violation Y/N	Level Detected	MRDL G	MRLD	Likely Source of Contamination
Chlorine Dioxide (ppb) **	Monthly 2008	N	NA	430	MCDL G = 800	MCL = 800	Water additive to control microbes

*The level detected for Chlorine Dioxide is the highest single measurement collected at the entrance to the distribution system.*

*\*\*Chlorine Dioxide results are from the Tampa Bay Water Consumer Confidence Report for 2008.*

Disinfectant or Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	MCL Violation Y/N	Highest Average	Highest Monthly Average	MCLG	MCL	Likely Source of Contamination
Chlorite (ppm) **	Nov 2008	N	NA	0.00531	0.8	1.0	By-product of drinking water disinfection

*For the Highest Monthly Average: Three sample sets collected in the distribution system. For the highest Average three sample sets collected in the distribution system following a daily MCL exceedance at the distribution system.*

*\*\*Chlorite results are from the Tampa Bay Water Consumer Confidence Report for 2008.*

## Organic Compounds

Contaminant and Unit of Measurement	Dates of sampling (mo/yr)	TT Violation Y/N	Lowest Running Annual Average, Computed Quarterly, of Monthly Removal Ratios	Range of Monthly Removal Ratios	MCLG	MCL	Likely Source of Contamination
Total organic carbon (ppm)	Weekly 2010	N	2.28	2.05 – 3.93	N/A	TT	Naturally present in the environment

*The monthly TOC removal ratio is the ratio between the actual TOC removal and the required TOC removal.*

## Copper (Tap Water)

Contaminant and Unit of Measurement	Dates of sampling (mo./yr.)	AL Violation Y/N	90th Percentile Result	No. of sampling sites exceeding the AL	MCLG	AL (Action Level)	Likely Source of Contamination
Copper (tap water) (ppm)	July 1- Sept 2008	N	0.08	None	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives